Opposing Views Science Attachment #1

The Following Compelling, Indisputable Science Reveals Commercial Timber Harvest Activities Will Inflict Major, Tragic Damage to the Natural Resources in and Downstream from the Sale Area.

The experts' statements below are clear and to the point. USFS employees are taught by the agency that logging will solve most problems in the forest, real or cooked up. Of course this is untrue. A few USFS specialists understand this ... yet they choose to play the game to avoid jeopardizing their jobs.

The following "Opposing Views" present scientific information that disproves the USFS claim that logging benefits the natural resources in the forest. The idea that logging "restores" the natural resources is absurd. These "Opposing Views" are subject to 40 CFR 1502.9(b).

The views are not irresponsible and they weren't adequately discussed or considered in this NEPA document.

Timber Harvest Opposing View "We concluded that commercial timber sales do not meet the criteria for forest restoration." (Pg. 11)

Western Region Audit Report: Forest Service National Fire Plan Implementation

Long, Richard D., U.S. Department of Agriculture Office of Inspector General *Report No. 08601-26-SF*, November 2001. http://www.usda.gov/oig/webdocs/08601-26-SF.pdf

Timber Harvest Opposing View "Biodiversity in managed ecosystems is poor. Less biodiverse communities and ecosystems are more susceptible to adverse weather (such as drought) and exotic invaders, and have greatly reduced rates of biomass production and nutrient cycling."

Biodiversity and Ecosystem Functioning: Maintaining Natural Life Support Processes Naeem, Shahid Ph.D., F.S. Chapin III Ph.D., Robert Costanza Ph.D., Paul R. Ehrlich Ph.D., Frank B. Golley Ph.D., David U. Hooper Ph.D. J.H. Lawton Ph.D., Robert V. O'Neill Ph.D., Harold A. Mooney Ph.D. Osvaldo E. Sala Ph.D., Amy J. Symstad Ph.D., and David Tilman Ph.D. Published in *Issues in Ecology* No. 4. Fall 1999. http://cfpub.epa.gov/watertrain/pdf/issue4.pdf

Timber Harvest Opposing View "Major report findings:

- 1) If we ended the timber sales program on national forests and redirected the logging subsidies we could provide over \$30,000 for each public lands timber worker for retraining or ecological restoration work - and still have over \$800 million left over for taxpayer savings in the first year alone.
- 2) We don't need to log national forests for our timber supply, given the fact that the timber cut annually from national forests nationwide now comprises only 3.3% of this nation's total annual wood consumption, and less than 4% of the sawtimber used for construction.
- 3) Logging on national forests INCREASES the risk of forest fires more than any other human activity.

4) A bipartisan nationwide poll conducted in 1998 found that 69% of Americans now oppose allowing timber companies to log our national forests.

THE FACTS: Ending Timber Sales on National Forests
By Hansen, Chad, Ph.D.,
Published in the Earth Island Journal, June 22, 1999
https://www.questia.com/magazine/1G1-54451556/the-facts-ending-logging-on-national-forests

Timber Harvest Opposing View "Late last year a court found the Forest Service in violation of the National Environmental Policy Act for failing to properly address the impacts of logging in roadless areas within the footprint of the 2014 French fire. The court sent the Forest Service back to the drawing board, but the Service has now issued yet another decision authorizing the same logging it had illegally approved. The Center will head back to court to ask that the existing prohibition against logging remains in place, especially given the presence of West Coast fishers."

"it's appalling to see the Forest Service allowing important wildlife habitat to be destroyed, especially in a roadless area," said Justin Augustine, an attorney with the Center for Biological Diversity. "Roadless areas represent some of the last, best places for wildlife like fishers to survive. The Forest Service needs to be protecting these places, not logging them." "

Forest Service Approves Habitat Destruction in Sierra Nevada Roadless Area---Decision Allows Post-fire Logging in Habitat Occupied by Rare West Coast Fishers
Published by the Center for Biological Diversity, April 29, 2016
https://www.biologicaldiversity.org/news/press_releases/2016/fisher-04-29-2016.html

Timber Harvest Opposing View "In response to the changes described above, the timber industry and the Forest Service have sought to find new justifications for taxpayer-subsidized logging on public lands. In particular, they have tried to emphasize concerns over forest fire, contending that more logging should be used to prevent fire, even though logging actually often leaves forest areas more fire-prone. These calls for more logging have been tied to claims that there is too much fire in forests."

National Forest Protection

By Hanson, Chad, Ph.D.
Published in *Environment Now* (see picture on last page)
http://www.environmentnow.org/forest.html

Timber Harvest Opposing View "Logging equipment compacts soils. Logging removes biomass critical to future soil productivity of the forest. Logging disturbs sensitive wildlife. Logging typically requires roads and skid trails which create chronic sources of sedimentation that degrades water quality and aquatic organism habitat. Logging roads and skid trails are also a major vector for the spread of weeds. Logging disrupts nutrient cycling and flows. Logging can alter species composition and age structure (i.e. loss of old growth). Logging can alter fire regimes. Logging can change water cycling and water balance in a drainage. The litany of negative impacts is much longer, but suffice it to say that anyone who suggests that logging is a benefit or benign is not doing a full accounting of costs."

Those who suggest that logging "benefits" the forest ecosystem are using very narrow definitions of "benefit." Much as some might claim that smoking helps people to lose weight and is a "benefit" of smoking."

Who Will Speak For the Forests?

By George Wuerthner, ecologist, author and ecological projects director for the Foundation for Deep Ecology

Published in NewWest, January 27, 2009

http://www.newwest.net/topic/article/who_will_speak_for_the_forests/C564/L564/

Timber Harvest Opposing View "Logging simplifies forest ecosystems (Dudley et al 1995) by narrowing the age range of the stand and suppressing diversification through repeated harvesting, burning to remove slash, and replanting with hybrid seedlings. Simplification affects the health and productivity of the forest because simplified forests lack the variety found in older stands, including species diversity, vertical structure, and microhabitat. From an ecological standpoint, a simplified forest of a particular age has less overall bio-mass per acre than a natural forest of the same age, but a simplified forest produces a higher volume of merchantable timber."

Forest Clearing in the Gray's River Watershed 1905-1996

By Mark G. Scott
A research paper submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in GEOGRAPHY Portland State University, 2001
http://www.markscott.biz/papers/grays/chapter1.htm

Timber Harvest Opposing View "Timber harvest will remove dead and dying material from the site and inhibit the recruitment of downed woody material as time progresses. Timber harvest and associated reduced structural complexity and reduced age and size class diversity are all known to reduce population abundance and diversity of ants and a number of birds.

Applying Ecological Principles to Management of the U.S. National Forests

Published in Issues in Ecology Number 6 Spring 2000

https://19january2017snapshot.epa.gov/watershedacademy/applying-ecological-principles-management-us-national-forests_.html

Timber Harvest Opposing View "According to a 1998 poll by a firm that has worked for several Republican House members and two presidents, 69 percent of Americans oppose commercial logging on federally owned land. The Forests Service's own poll showed that 59 percent of Americans who expressed an opinion oppose timber sales and other commodity production in national forests."

"Many Americans are surprised to learn that logging is even allowed on public lands. Alas, it has been since the Organic Act of 1897 first authorized logging in America's new forest reserves."

Stop the Logging, Start the Restoration

By John Byrne Barry

Published in the *The Planet* newsletter, June 1999, Volume 6, Number 5

Timber Harvest Opposing View "Federal auditors have found that the Forest Service frequently fails to assess, prevent or correct environmental damage from logging on the national forests.

After inspecting 12 timber projects in the field from 1995 to 1998, the Agriculture Department's inspector general found that all were deficient and that 'immediate corrective action is needed."

Audit Faults Forest Service on Logging Damage in U.S. Forests

By John H. Cushman Jr.

Published in the New York Times, February 5, 1999

http://query.nytimes.com/gst/fullpage.html?res=9B00E2DF163BF936A35751C0A96F958260&sec=&spon=&pagewanted=print

and

http://www.ncpa.org/sub/dpd/index.php?Article ID=12468

Timber Harvest Opposing View "Logging on national forest land creates more economic harm than good, according to a recent study by the National Forest Protection Alliance and the Forest Conservation Council.

The 75-page report, three years in the making, notes there are dramatic economic and social losses when forests are logged under the U.S. Forest Service's timber-sale program.

The report, "The Economic Case Against Logging National Forests," states that national forest lands are far more valuable to rural communities when trees are left standing, and that the federal logging program creates billions of dollars in unaccounted costs for

communities, businesses, and individuals. This expense comes in addition to timber industry subsidies, which cost American taxpayers approximately \$1.2 billion a year."

National forest logging is bad business, study says
By Margot Higgins
Posted on CNN.com-*Nature*, March 16, 2000
http://www.cnn.com/2000/NATURE/03/16/forest.logging.enn/index.html

Timber Harvest Opposing View "For much of the past century the Forest Service, entrusted as the institutional steward of our National Forests, focused its management on an industrial-scale logging program. The result of the massive logging and road construction program was to damage watersheds, destroy wildlife habitat and imperiled plant and animal species."

Scientists Seek Logging Ban on U.S.-Owned Land

By Anne Ehrlich Ph.D., David Foster Ph.D. and Peter Raven Ph.D. Published in the *New York Times*, April 16, 2002 http://www.nytimes.com/2002/04/16/us/scientists-seek-logging-ban-on-us-owned-land.html

Timber Harvest Opposing View "The proposition that forest values are protected with more, rather than less logging, and that forest reserves are not only unnecessary, but undesirable, has great appeal to many with a vested interest in maximizing timber harvest. These ideas are particularly attractive to institutions and individuals whose incomes depend upon a forest land base." (page 2)

"On the other hand, approaches that involve reserving of a portion of the land base, or harvest practices that leave commercially valuable trees uncut to achieve ecological goals, are often considered much less desirable as they reduce traditional sources of timber income." (page 2)

Simplified Forest Management to Achieve Watershed and Forest Health: A Critique By Jerry Franklin Ph.D., David Perry Ph.D., Reed Noss Ph.D., David Montgomery Ph.D. and Christopher Frissell Ph.D. 2000.



Timber Harvest Opposing View "We do not believe, however, that scientific literature or forestry experience supports the notions that intensively managed forests can duplicate the role of natural forests, or that sufficient knowledge and ability exist to create even an approximation of a natural old-growth forest stand." (page 3)

Forging a Science-Based National Forest Fire Policy

By Jerry F. Franklin Ph.D. and James K. Agee Ph.D. Published in *Issues in Science and Technology*. Fall 2003 A National Wildlife Federation publication sponsored by the Bullitt Foundation http://issues.org/20-1/franklin/

Timber Harvest Opposing View "Managers on the Wolverine fire still opted to cut one of the largest firelines ever in Washington, logging 114 acres of critical spotted owl habitat and felling big trees — including a giant that had stood for centuries, so large, it was a one-log load on a semi truck. Steel-tracked heavy equipment tore up fragile ground along streams. Erosive soils unique to the area were bulldozed.

Cut by the U.S. Forest Service with none of the usual environmental review, the firebreak was up to 300 feet wide and stretched more than 50 miles, from the Entiat drainage on the east, to Twin Lakes to the west. Loggers cut enough trees to fill more than 930 logging trucks.

Yet the fire never came anywhere near."

Rushing to stop a fire that never came, Forest Service logged miles of big trees, critical habitat

Published on the *Seattle Times*, August 9, 2016 http://projects.seattletimes.com/2016/collateral-damage/ **Timber Harvest Opposing View** "This is a lesson for USFS employees (with many pictures) who still think its important to sell dead and dying trees in a post-fire landscape before the trees rot and loose value. Of course logging this rare and important habitat to provide corporate profit opportunities is something an intelligent, professional, caring USFS employee would never consider."

Protection of Post-Fire Habitat

Published by the John Muir project, 2014 http://johnmuirproject.org/forest-watch/post-fire-habitat/

Timber Harvest Opposing View "One trust fund often cited by critics is the Knutson-Vandenberg (K-V) Fund. This account receives an unlimited portion of timber sale receipts, to be used for reforestation, timber stand improvements, and other resource mitigation and enhancement activities in timber sale areas. Forest Service managers can, therefore, fund their programs from timber sales; in the words of one critic, wildlife managers have an incentive to support timber sales that damage wildlife habitat, because they can use the revenues to mitigate that damage and to keep themselves and their staffs employed. (10)"

Forest Service Timber Sale Practices and Procedures: Analysis of Alternative Systems By Gorte, Ross W. Ph.D.

Published by the Library of Congress. A Congressional Research Service, October 30, 1995. https://digital.library.unt.edu/ark:/67531/metacrs233/

Timber Harvest Opposing View "The fact is, commercial logging doesn't prevent catastrophic fires; it causes them. In the latter part of the 19th century, this was common

knowledge. Relentless clearing of forests in the Great Lakes region left huge areas largely devoid of the cooling shade of trees, replacing moist natural forest microclimates with the hotter, drier conditions characterized by stump fields. Flammable logging "slash debris" covered the landscape.

It was in this setting that a massive, cataclysmic fire started near Peshtigo, Wisconsin in 1871. More than 1,200 people were killed. Similar blazes erupted in subsequent years."

The Big Lie: Logging and Forest Fires
By Hanson, Chad Ph.D.
Published in the Earth Island Journal, spring 2000 issue http://yeoldeconsciousnessshoppe.com/art6.html

Timber Harvest Opposing View "Logging reduces the organic parent material (duff and woody residues) available for soil-formation processes."

Distribution of Ectomycorrhizae in a Mature Douglas-fir/larch Forest Soil in Western Montana

By A.E. Harvey, M. J. Larsen, and M. F. Jurgensen Published in Forest Science, Volume 22, Number 4, 1 December 1976, pp. 393-398(6) https://www.researchgate.net/publication/233704894_Distribution_of_Ectomycorrhizae_in_a_M
<a href="https://www.researchgate.net/publication/233704894_Distribution_of_Ectomycorrhizae_in_a_M
<a href="https://www.researchgate.net/publication/233704894_Distribution_of_Ectomycorrhizae_in_a_M
<a href="https://www.researchgate.net/publication/233704894_Distribution_of_Ectomycorrhizae_in_a_M

Timber Harvest Opposing View "Shifting value orientations and priorities have resulted in two conflicting management paradigms concerning natural resources. These paradigms and the societal shifts associated with them have been well articulated by Brown and Harris (1992) and Bengston (1994), as well as others. The two competing natural resource paradigms—derived from the ideas of Gifford Pinchot and Aldo Leopold, respectively— have been labeled the "Dominant Resource Management Paradigm" and the postmodern, "New Resource Management Paradigm" (Table 1). The former view advocates the utilitarian belief that natural resource management ought to be directed toward the production of goods and services beneficial to humans, whereas the latter takes a relatively biocentric view that reflects a more environmentally holistic way of thinking about resources. In terms of implementation, the postmodern paradigm

questions the wisdom of top-down decision making (Shindler et al. 1996). More directly, many who identify with this paradigm simply do not trust forest management or research experts—especially those who work for the government (Steel et al. 1992)." (page 29)

Shifting Public Values for Forest Management: Making Sense of Wicked Problems
By Dr. Bruce Shindler, Department of Forest Resources, and Dr. Lori A. Cramer, Department of Sociology, Oregon State University

Reprinted from the *Western Journal of Applied Forestry*, Vol. 14, No. 1, January 1999. https://andrewsforest.oregonstate.edu/sites/default/files/lter/pubs/pdf/pub2465.pdf

Timber Harvest Opposing View "Congress finds the following:

- 1. Forest Service polls show that a strong majority of the American people think that natural resources on Federal public lands should not be made available to produce consumer goods.
- 2. Recreation and tourism in the National Forest System creates over 30 times more jobs, and generates over 30 times more income, than commercial logging on national forests.
- 3. Timber cut from Federal public lands comprises less than 5% of US annual timber consumption.
- 4. The vast majority of America's original pristine forests have been logged, and what little primary forest that remains exists almost entirely on public lands.
- 5. It is in the interests of the American people and the international community to protect and restore native biodiversity in our Federal public lands for its inherent benefits.
- 6. Commercial logging has many indirect costs which are very significant, but not easily measured, such as flooding damage, damage to the salmon fishing industry; and harm to the recreation and tourism industries.

House Bill H. R. 1494 text. April 4, 2001 http://www.ontheissues.org/House/Bill Luther Environment.htm **Timber Harvest Opposing View** "Human tampering with nature has not been without costs. Human manipulation of existing ecosystems has also sometimes had unfortunate consequences."

From Prairie Dogs to Oysters: How Biodiversity Sustains Us

By Hudak, Mike Ph.D.

from his book review of *The Work of Nature: How the Diversity of Life Sustains Us* by Yvonne Baskin, 1997

Published in the *Newsletter of Earth Day Southern Tier*, February/March 1999, p. 2 http://www.mikehudak.com/Articles/FromPrairieDogs9902.html

Timber Harvest Opposing View "An unprecedented rape of Mother Nature from the 1880s to the 1940s completely changed the wooded landscape in the northern Great Lakes region of America as well as the society and ecology forevermore."

Cut and Run: Loggin' Off the Big Woods

By Mike Monte

Paperback – June 1, 2002

https://www.amazon.com/Cut-Run-Loggin-Off-

Woods/dp/0764315293/ref=cm cr arp d product top?ie=UTF8

Timber Harvest Opposing View "Logging-truck traffic in the Kimsquit Valley in British Columbia resulted in a 78% reduction in use of the "Zone of Hauling Activity" by radio collared bears compared to non-hauling periods (16). For 14 hours/day, 3%-23% of each bear's home range was unavailable to them because of disturbance."

"Wolverines seem to have been most affected by activities that fragment and supplant habitat, such as human settlement, extensive logging, oil and gas development, mining, recreational developments, and the accompanying access.

The Effects of Linear

Developments on Wildlife: A Review of Selected Scientific Literature

By M.G. Jalkotzy, P.I. Ross, and M.D. Nasserden

Prepared for Canadian Association of Petroleum Producers. Arc Wildlife Services Ltd., Calgary. 115pp, 1997

Timber Harvest Opposing View "Timber harvesting operations affect hydrologic processes by reducing canopy interception and evapotranspiration. Many studies have documented changes in soil properties following tractor yarding (Stone, 1977; Cafferata, 1983), and low-ground-pressure skidding (Sidle and Drlica, 1981). More recently, researchers have evaluated cable yarding (Miller and Sirois, 1986; Purser and Cundy, 1992). In general, these studies report decreased hydraulic conductivity and increased bulk density in forest soils after harvest."

Effects of Human-Induced Changes on Hydrologic Systems
By Elizabeth T. Keppeler, Robert R. Ziemer Ph.D., and Peter H. Cafferata
An American Water Resources Association publication, June 1994
http://www.fs.fed.us/psw/publications/ziemer/Ziemer94a.PDF

Timber Harvest Opposing View "Looking at the study on a larger scale, the potential for changes caused by logging is great. Absence of trees could influence water temperature by altering available sunlight, conductivity by changing the amount of organic matter that collects in the vernal ponds, or pH if the logging process deposits foreign residues to the area. Also heavy equipment used to harvest the timber has the potential to alter the terrain."

Logging Effects on Amphibian Larvae Populations in Ottawa National Forest Al Klein, University of Notre Dame, 2004 http://underc.nd.edu/assets/216499/fullsize/klein2004.pdf

Timber Harvest Opposing View "In hopes of ending conflicts over "multiple use," an independent scientific committee has proposed that "ecological sustainability" should

become the principal goal in managing the U.S. national forests and grasslands, which since 1960 have been under a congressional mandate to serve industry, recreation, and conservation all at once."

Call for 'Sustainability' in Forests Sparks a Fire Science

By Charles C. Mann Ph.D. and Mark L. Plummer Ph.D. Published in *Science* 26 March 1999: Vol. 283. no. 5410, pp. 1996 – 1998 http://www.sciencemag.org/content/283/5410/1996.summary

Timber Harvest Opposing View "Logging removes a mass that harbor a myriad of organisms, from bacteria and actinomycetes to higher fungi. The smaller organisms, not visible to the unaided eye, are still important components of the system."

The Seen and Unseen World of the Fallen Tree

By C. Maser Ph.D., and J. M. Trappe Ph.D. USDA Forest Service, *GTR-PNW-164*, 1984 http://www.fs.fed.us/pnw/publications/pnw_gtr164/

Timber Harvest Opposing View "Logging removes mature and maturing trees which conserve essential elements, whereas the area containing new very young planted trees following logging are susceptible to erosion and essential element loss." (pg.5)

"Logging removes tree parts that would have created and maintained diversity in forest communities." (pg. 44)

The Forest to the Sea: A Story of Fallen Trees

By C. Maser Ph.D., R. F. Tarrant, J. M. Trappe Ph.D., and J. F. Franklin Ph.D. USDA Forest Service, *GTR-PNW-GTR-229*, 1988 http://www.fs.fed.us/pnw/publications/pnw_gtr229/ **Timber Harvest Opposing View** "In addition to the direct effects of habitat loss and fragmentation, logging typically reduces ecosystem health by:

a) damaging aquatic habitats through siltation, reduction in stream complexity and increased water temperatures."

Management history of eastside ecosystems: changes in fish habitat over 50 years, 1935-1992

By B.A. McIntosh, J.R. Sedell, J.E. Smith, R.C. Wissmar, S.E. Clarke, G.H. Reeves, and L.A. Brown

USFS Pacific Northwest Research Station, *GTR-321 93-181*, 1994 http://www.fs.fed.us/pnw/publications/pnw_gtr321/

Timber Harvest Opposing View "Logging practices can indirectly result in changes in the biological components of a stream, and can have direct and indirect on the physical environment in streams.

The primary environmental changes of concern are the effects of siltation, logging debris, gravel scouring, destruction of developing embryos and alevins, blockage of streamflow, decrease in surface and intragravel dissolved oxygen, increase in maximum and diel water temperatures, changes in pool/riffle ratios and cover, redistribution of fishes, reduction in fish numbers, and reduction in total biomass."

The Alsea Watershed Study: Effects of Logging on the Aquatic Resources of Three Headwater Streams of the Alsea River, Oregon – Part III

By John R. Moring Ph.D.

Fishery Report Number 9, Oregon Department of Fish and Wildlife, 1975 http://www.for.gov.bc.ca/hfd/library/ffip/Moring_JR1975b.pdf

Timber Harvest Opposing View-"The Forest Service is deforesting our national timberlands at arate that rivals Brazil's. What remains of America's original virgin forests is being clipped away daily on our public lands, lands that contain the most biomass per acre of any forests on the planet. We are losing intact ecosystems, watersheds, fish habitat, wildlife habitat, recreation lands, and native-species diversity to a degree that may be irreparable."

THE MISMANAGEMENT OF THE NATIONAL FORESTS

By Perri Knize
Published on the *Atlantic Monthly*, October 1991
https://andrewsforest.oregonstate.edu/sites/default/files/lter/pubs/pdf/pub3296.pdf

Timber Harvest Opposing View "Agroforestry does reduce biodiversity. In forests used for logging, whole-landscape management is crucial."

Forests as Human-Dominated Ecosystems

By Ian R. Noble and Rodolfo Dirzo Ph.D. Published in *Science* Vol. 277. No. 5325, pp. 522 - 525. 25 July 1997. http://www.sciencemag.org/content/277/5325/522.abstract?maxtoshow=&HITS=10&hits=10&R ESULTFORMAT=&fulltext=logging&searchid=1136659907310_5043&FIRSTINDEX=0&journalc ode=sci

Timber Harvest Opposing View "A federal judge has blocked logging proposed for the Klamath National Forest in Siskiyou County, chiding the U.S. Forest Service for its review of the environmental damage that would result."

"The service should have done a full environmental review and done a better job projecting the impact on wildlife and forest conditions, ruled U.S. District Judge Frank C. Damrell Jr."

Judge blocks Klamath logging plan

By Don Thompson

Publoshed by the Environmental Protection Information Center (EPIC), October 16, 2004 http://www.wildcalifornia.org/media/epic-in-the-news/judge-blocks-klamath-logging-plan/

Timber Harvest Opposing View "That makes four timber projects since May in which U.S. District Judge Dana Christensen found fault with the U.S. Forest Service and the U.S. Fish and Wildlife Services' conclusion that cutting and burning in those areas would not significantly harm the big cats' territory."

"Christensen ruled the Endangered Species Act requires the agencies to determine whether lynx "may be present" there, which is a lesser standard than what the agencies used in concluding lynx don't "occupy" the area."

"The judge said the government approved those projects based on an unreliable conclusion they would not harm the lynx's critical habitat."

Judge stops 3 Montana logging projects over lynx

By Matt Volz, Associated Press June 26, 2013 http://news.yahoo.com/judge-stops-3-montana-logging-141919567.html

Timber Harvest Opposing View "Less than 5% of America's original forests remain, and these forests are found primarily on federal lands. Logging in the last core areas of biodiversity is destroying the remaining intact forest ecosystems in the United States. At the current rate of logging, these forests and their priceless biological assets will be destroyed within a few decades."

"We believe it is our professional responsibility to ask Congress to align Federal forest management with modern scientific understandings of forest ecosystems. Passage of the Act to Save America's Forests will give our nation's precious forest ecosystems the best chance or survival and recovery into the 21st century and beyond."

From a 1998 letter to congress

By Peter Raven, Ph.D., Jane Goodall, C.B.E., Ph.D., Edward O. Wilson, Ph. D. and over 600 other leading biologists, ecologists, foresters, and scientists from other forest specialties.

Published by Save America's Forests

http://www.saveamericasforests.org/resources/Scientists.htm

Timber Harvest Opposing View "If the current pace of logging planned by the Forest Service continues, nearly all of America's ancient and roadless wild forests will soon be lost forever. According to a recent report by the World Resources Institute, only one percent of the original forest cover remains in large blocks within the lower 48 states."

from a February 9, 2001 letter to Senator Jean Carnahan By Peter Raven, Ph.D.,

http://www.saveamericasforests.org/Raven.htm

Timber Harvest Opposing View "The Water Board has identified wastes associated with timber harvest and vegetation management activities (as defined in Attachment A) as having a potential effect on water quality. These vegetation management activities have the potential to effect water quality by causing soil to discharge to a waterbody, slump or erode by wind, or be compacted or deformed which limits the soil's ability to infiltrate or filter runoff." (pg 2)

TIMBER HARVEST AND VEGETATION MANAGEMENT ACTIVITIES LAHONTAN REGION, Published by the CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, April 10, 2014

http://www.swrcb.ca.gov/lahontan/water_issues/programs/waste_discharge_requirements/timber_harvest/docs/timber_waiver/2014tw.pdf

Timber Harvest Opposing View "Within this volatile atmosphere the Bush Administration presented a new proposal for fire prevention called the "Healthy Forest Initiative." The plan received wide coverage in the national media in August and September 2002 and continues to be at the center of an attempt to significantly shift public land management in the United States. At the core of the plan is an effort to create private sector incentives to promote logging/thinning projects in the national forests."

Physicians of the Forest": A Rhetorical Critique of the Bush Healthy Forest Initiative By Brant Short Ph.D. and Dayle C. Hardy-Short Ph.D. Published in UCLA's *Electronic Green Journal*, Issue #19, December 2003 http://escholarship.org/uc/item/4288f8j5

Timber Harvest Opposing View "Four conservation groups — Alliance for the Wild Rockies, Swan View Coalition, Friends of the Wild Swan and Native Ecosystems Council — sued to halt the sale in June 2013. The groups claimed the project would harm grizzly bear, lynx, wolverine and other species and plants while damaging the forest's remaining old growth."

"The judge ordered the project be stopped and said these Forest Service lands have to be managed under federal environmental laws to protect native species just like all other national forests, Garrity said.

Judge Halts Glacier Loon Timber Sale in Swan Valley
Published in the *Flathead Beacon*, Sep 26, 2014
http://flatheadbeacon.com/2014/09/26/judge-halts-glacier-loon-timber-sale-swan-valley/

Timber Harvest Opposing View "Timber harvesting in British Columbia influences (a) forest hydrology; (b) fluvial geomorphology; (c) terrain stability; and (d) integrated watershed behavior. Impacts on forest hydrology are well understood and include increased average runoff, total water yield, increased storm runoff and advances in timing of floods. Stream channels and valley floors are impacted differently by fine sediment, coarse sediment and large woody debris transport. Terrain stability is influenced through gully and mass movement processes that are accelerated by timber harvesting. Impacts on integrated watershed behavior are assessed through disturbed sediment budgets and lake sediments."

Assessment of the Geomorphic Impacts of Forestry in British Columbia By Olav Slaymaker Ph.D.

Published in *AMBIO*: A Journal of the Human Environment 29(7):381-387. 2000 http://www.bioone.org/doi/abs/10.1579/0044-7447-29.7.381

Timber Harvest Opposing View This link contains photos of logging around the world. Can you guess which 7 were taken of the after-effects of a timber sale in national forest land?

http://www.bing.com/images/search?q=logging+impact+on+environment&qpvt=logging+impact+on+environment

Timber Harvest Opposing View "After logging, peak pipeflow was about 3.7 times greater than before logging."

"The use of heavy logging equipment was expected to compact the soil, reduce infiltration rates, and increase surface runoff. In addition, heavy equipment might collapse some of the subsurface pipes, increasing local pore water pressure and the chance of landslides (Sidle, 1986)."

Effect of logging on subsurface pipeflow and erosion: coastal northern California, USA By Robert R. Ziemer Ph.D., an employee of the Pacific Southwest Research Station,,USDA Forest Service

Proceedings of the Chengdu Symposium, July 1992. IAHS Publication. No. 209, 1992

Timber Harvest Opposing View "This post-fire renewal, known as "complex early seral forest," or "snag forest," is quite simply some of the best wildlife habitat in forests, and is an essential stage of natural processes that eventually become old-growth forests over time. This unique habitat is not mimicked by clearcutting, as the legislation incorrectly suggests. Moreover, it is the least protected of all forest habitat types, and is often as rare, or rarer, than old-growth forest, due to extensive fire suppression and damaging forest management practices such as those encouraged by this legislation."

Open Letter to U.S. Senators and President Obama from Scientists
Concerned about Post-fire Logging and Clearcutting on National Forests. September 2015
Signed by 266 Ph.D. scientists
http://johnmuirproject.org/wp-content/uploads/2015/09/Final2015ScientistLetterOpposingLoggingBills.pdf

Timber Harvest Opposing View "Recently, so called "salvage" logging has increased on national forests in response to a timber industry invented "forest health crisis" which points the finger at normal forest processes of fire, fungi, bacteria, insects and other diseases. In fact the crisis in the national forests is habitat destruction caused by too much clearcutting.

The real threat facing forests are excessive logging, clearcutting and roadbuilding that homogenize and destroy soil, watersheds and biodiversity of native forests."

Statement at a Press Conference with Senator Robert Torricelli about S. 977 and HR 1376), the Act to Save America's Forests

By Partridge, Arthur Ph.D., professor emeritus, University of Idaho April 28, 1998, U.S. Capitol

http://www.saveamericasforests.org/news/ScientistsStatement.htm

Timber Harvest Opposing View "Extreme disturbances, such as wildfire or tractor logging, cause the loss of nutrients, mycorrhizae, and organic matter. These combined losses reduce long-term site productivity and may lead to sustained periods of extended erosion that could exacerbate degradation.

The effects of forest management on erosion and soil productivity

By W.J. Elliot; Page-Dumroese, D.; Robichaud, P.R. 1999.

Proceedings of the Symposium on Soil Quality and Erosion Interaction, Keystone, CO, July 7, 1996

Published by the USDA Forest Service Rocky Mountain Research Station http://forest.moscowfsl.wsu.edu/cgi-bin/engr/library/searchpub.pl?pub=1999c

Timber Harvest Opposing View "The lawsuit raises concerns that land managers erred in their finding that the project will not hurt wildlife habitat – particularly that of lynx, bull trout and grizzly bears – and violated the National Environmental Policy Act by never completing an environmental impact statement. The groups have also filed separate legal notices of intent to challenge two similar thinning projects in the Flathead National Forest."

"The South Fork of the Flathead River is a protected wild and scenic river that is home to lynx, wolverine, grizzly bear, gray wolves, fisher and bull trout. The area was designated as critical habitat for lynx and bull trout and deemed essential the survival and recovery of grizzly bears in the Northern Rockies"

Conservationists sue over timber sale on Flathead's South Fork

By TRISTAN SCOTT of the Missoulian, Feb 29, 2012

http://missoulian.com/news/local/conservationists-sue-over-timber-sale-on-flathead-s-south-fork/article c7b0e12e-6287-11e1-b6db-001871e3ce6c.html

Timber Harvest Opposing View "Indeed, the major justifications given for logging public lands is typically some social or ecological benefit—to reduce fires, clean up bug killed trees, fix watersheds, restore forest health or provide for "economic stability" to rural communities. In far too many cases, all of these are just cover to hide the main reason for logging—to maintain the local timber industry at the expense of our forest's ecological integrity and taxpayer dollars."

WUERTHNER, GEORGE, Why are Conservation Groups Advocating Logging Public Forests?

Published by *Counterpunch*, September 27, 2012 http://www.counterpunch.org/2012/09/27/why-are-conservation-groups-advocating-logging-public-forests/

Timber Harvest Opposing View "Deforestation is clearing Earth's forests on a massive scale, often resulting in damage to the quality of the land. Forests still cover about 30 percent of the world's land area, but swaths half the size of England are lost each year."

"Deforestation can have a negative impact on the environment. The most dramatic impact is a loss of habitat for millions of species. Eighty percent of Earth's land animals and plants <u>live in forests</u>, and many cannot survive the deforestation that destroys their homes."

Deforestation

Published by *National Geographic*, 2017 http://www.nationalgeographic.com/environment/global-warming/deforestation/

Timber Harvest Opposing View "It is impossible to overstate the importance of humankind's clearing of the forests. The transformation of forested lands by human actions represents one of the great forces in global environmental change and one of the great drivers of biodiversity loss. The impact of people has been and continues to be profound. Forests are cleared, degraded and fragmented by timber harvest, conversion to agriculture, road-building, human-caused fire, and in myriad other ways. The effort to use and subdue the forest has been a constant theme in the transformation of the earth, in many societies, in many lands, and at most times. Deforestation has important implications for life on this planet."

Global Deforestation

Published by the University of Michigan http://resilience.earth.lsa.umich.edu/units/deforestation/index.html

Timber Harvest Opposing View "Photosynthesis is one of only two significant mechanisms for removing carbon dioxide from the atmosphere (the other being dissolution into water, leading to destructive ocean acidification). Carbon dioxide is released when trees are cut down, and deforestation accounts for <u>at least 15 percent</u> of global carbon emissions. Thus, cutting down trees is a double-whammy because we not only lose carbon capture capacity, but we release more carbon, too."

Trees Are Our Climate Saviors - So Stop Logging on Public Land
The Huffington Post, 02/12/2014
http://www.huffingtonpost.com/ellen-moyer-phd/trees-are-our-climate-logging_b_4775894.html

Timber Harvest Opposing View "Logging activities have numerous impacts on aquatic systems in the Sierra Nevada. The end result of logged landscapes is a highly altered forest system which creates significant problems related to erosion, sedimentation and altered stream flow patterns. Logging removes large trees that normally fall into streams and provide shelter and thermal cover, raises water temperatures and pH, and degrades the chemical and ecological conditions and food webs that fish need to survive. Logging and the roads created to facilitate logging also significantly degrade stream ecosystems by introducing high volumes of sediment into streams, changing natural streamflow patterns, and altering stream channel morphology. Areas that have

been logged are far more likely to suffer from major landslides and erosion events which deposit abnormally high levels of sediment into area streams. Roads, ditches, and newly created gullies form new, large networks of flow paths across the landscape. These logged areas therefore, sustain much higher discharge volumes after a storm event than they ever did when the forest was intact."

Logging Impacts

Published by Sierra Forest Legacy, 2012 http://www.sierraforestlegacy.org/FC_FireForestEcology/FFE_LoggingImpacts.php

Timber Harvest Opposing View



Forestry Photo: NOAA

"Natural resource use and extraction leading to habitat modification can have significant direct and indirect impacts to salmon populations. Land use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly altered fish habitat quantity and quality. Associated impacts of these activities include: alteration of streambanks and channel morphology; alteration of ambient stream water temperatures; degradation of water quality; reduction in available

food supply; elimination of spawning and rearing habitat; fragmentation of available habitats; elimination of downstream recruitment of spawning gravels and large woody debris; removal of riparian vegetation resulting in increased stream bank erosion; and increased sedimentation input into spawning and rearing areas resulting in the loss of channel complexity, pool habitat, suitable gravel substrate, and large woody debris."

Pacific Salmonids: Major Threats and Impacts

Published by NOAA fisheries Office, May 15, 2014

http://www.agriculturedefensecoalition.org/sites/default/files/file/us_navy_new/271N_7_2014_N OAA Pacific Salmonids Major Threats and Impacts Website.pdf Timber Harvest Opposing View "Opponents of HR 1526, including Senate Democrats and the White House, are apprehensive about the bill's measures to decrease regulations on logging, while pointing out that the economic stimulation of logging would counteract the outdoor recreation industries that have flourished in these same regions. An integral part of the bill is a measure to decrease public input, environmental analysis, and federal regulation of timber harvesting projects, which opponents say decreases control over the timber industry and would lead to a resumption of rampant deforestation experienced in the early-to-mid twentieth century. While the logging industry could create more jobs and provide economic stimulation to rural counties, logging would damage the outdoor recreation industry that has flourished in communities adjacent to national parks and forest. Therefore, HR 1526 would essentially destroy one newly established industry in the hope of reinstating what many consider an antiquated industry."

Logging in National Parks and Forests: A contentious Debate

By Joseph Palmisano

Published by Law/Street, October 3, 2014

https://lawstreetmedia.com/issues/energy-and-environment/should-logging-be-encouraged-in-national-parks-and-forests-under-hr-1526/

Timber Harvest Opposing View "Timber cutting damages fisheries. In the Pacific Northwest 103 salmon species are already extinct and 214 native salmon stocks at risk of extinction. Research has consistently shown that clearcuts and logging roads have catastrophic consequences for our native fish populations."

"Logging is linked to increased severity of forest fires. A scientific study of the Sierra Nevada forests, commissioned and funded by Congress, found that "more than any other human activity, logging has increased the risk and severity of fires by removing the cooling shade of trees and leaving flammable debris." These logging-caused forest fires cost lives, as well as several hundred million dollars of taxpayer money each year in forest fire-fighting expenses."

Legislation Would Ban Logging On Federal Lands

By Mike Hudak

published in EarthTimes, March/April 1998, p. 2

http://www.mikehudak.com/Articles/BillWouldEndLogging9803.html

Timber Harvest Opposing View "Juneau, AK — Today, the U.S. Forest Service released its long-awaited proposal for amending the Tongass Land Management Plan and the results are disappointing. We will continue to work with the Obama administration to correct the pervasive mistakes in this plan.

Instead of making the promised rapid transition out of old-growth logging, the Forest Service's proposed plan perpetuates the conflict and controversy of clear-cutting Tongass old-growth forests for at least another 15 years and possibly much longer, destroying the very same forests that support our world-class fishing, hunting, tourism and recreation industries."

Forest Service Plan Would Perpetuate Destruction of Tongass Old-Growth Published by <u>Earth Justice</u>, June 30, 2016 https://earthjustice.org/news/press/2016/forest-service-plan-would-perpetuate-destruction-of-tongass-old-growth

Timber Harvest Opposing View "Unfortunately, in this particular case we were forced to go to court to stop the Colt-Summit timber sale, which authorizes 2,038 acres of logging in bull trout, lynx and grizzly bear critical habitat and opens up 17 miles of new or previously closed roads to new noxious weed infestation for the very good reasons listed below."

"If this so-called "collaborative" proposal heeded existing science and followed federal law, the Alliance for the Wild Rockies wouldn't have a problem with it. Unfortunately, that's not the case. Simply put, the agency refuses to listen to well-documented and accurate evidence. Thus, we have asked the Federal District Court to stop this timber sale for the sake of taxpayers and the myriad of old growth dependent species that rely on unlogged national forests."

'Collaborative' logging proposal destroys wildlife habitat Published by *Helena Independent Record*, March 6, 2012 http://helenair.com/news/opinion/collaborative-logging-proposal-destroys-wildlife-habitat/article_fce056bc-675b-11e1-862b-0019bb2963f4.html

Timber Harvest Opposing View "Losses due to logging damage can be either direct or indirect and are linked to the harvesting system and equipment utilized. It can be argued that the two key harvesting systems used in Ontario are clearcutting and selection/shelterwood cutting"

Logging Damage

Posted online by Lakeland University, January 08, 2001 http://flash.lakeheadu.ca/~carbon/Nlgdm.htm

Timber Harvest Opposing View "Unfortunately, rather than focusing on resources that help people get outdoors, the Forest Service is instead moving to dramatically increase the scale and pace of logging.

In March, the agency proposed intensive logging on 7,200 acres in the Redbird and London Districts, after approving over 2,000 acres of logging in the Stearns District last October. Thousands of acres are now planned for cutting on steep mountain slopes above streams that provide some of the last remaining habitat for both the federally threatened Kentucky arrow darter and endangered snuffbox mussel."

"The Forest Service also proposed amending the forest's management plan to loosen restrictions on logging that were meant to protect endangered Indiana bats — changes that the U.S. Fish and Wildlife Service said would likely "result in increased adverse effects" for Indiana bats and other protected species."

Returning to an emphasis on logging in the Daniel Boone National Forest poses a harmful distraction from other, more critical management needs, like the catastrophic loss of our eastern hemlock trees and the deterioration of recreational infrastructure. Our public lands are special, and ought to be a place where the natural splendor of the landscape can be preserved and sheltered from the economic prerogatives of extractive industries."

Protect Our National Forests From an Increase in Logging
By Jim Scheff
Published by *Counterpunch*, June 18, 2018
https://www.counterpunch.org/2018/06/18/protect-our-national-forests-from-an-increase-in-logging/

Timber Harvest Opposing View "America was once covered with one billion acres of towering primeval forests. These forests were teeming with plants and animals, a treasure-trove of evolutionary diversity and biological richness. Giant, centuries-old trees had trunks more than 15 feet wide and soared to the height of 30 story skyscrapers.

In the past 500 years, aggressive logging and development have destroyed over 95% of these original forests. The last remnants of America's virgin and natural forests, with their unique and irreplaceable life, reside mostly on our national forests. The 155 national forests cover a large portion of our country, an area about the size of California Oregon and Washington combined, and stretch from Alaska to Florida. Most states have at least one national forest.

Deforestation is occurring on a massive scale in our national forests and is clearly visible from space. Satellite photos show that the rate of clearcutting in places like the Olympic National Forest of Washington state equals or exceeds the destruction in the Brazilian rainforests. Clearcutting describes logging which cuts down all or most of the trees in a forest area, destroying the forest. A World Resources Institute report concluded that the last of the original forests in this country will be lost without immediate action."

The Destruction of America's Last Wild Forests
Published by Save America's Forests, 1998
http://www.saveamericasforests.org/resources/Destruction.htm

Timber Harvest Opposing View "The Grant Study was based on 40 years of data from the Willamette National forest, and found that clearcuts and logging roads

increased peak flows in mountain streams by 20% to 50% The effects diminish gradually, but were still apparent 25 years later. This study was completed BEFORE the recent floods and deals with more normal or average rainfall conditions. It has been extensively peer reviewed and has been termed by colleagues as very persuasive.

Shortly after the floods the Pacific Rivers Council contracted with Pacific Watershed Associations, a well-known and highly respected engineering firm, to do aerial overflight studies of damage watersheds on public lands, with some startling results. The damage was so extensive in many streams that it is likely a whole year class of salmon has been lost. Among those runs most affected are many so severely depressed that they qualify for listing under the endangered species act. The text of the Pacific Watersheds study is included below.

Two days after the flood waters receded, the Association of Forest Service Employees for Environmental Ethics (AFSEEE) also did an aerial assessment of its own (using well accepted observer protocols) of the Mapleton Ranger District, and found the f ollowing results:

- "A total of 185 landslides from the February 1996 storm were recorded. Of these, 114 were in-unit slides, 68 were road-related slides, and 3 were natural, in-forest slides."
- "On average, road-related slides appeared substantially larger than in-unit slides, which is also consistent with previous studies. Road-related slides also appeared to cause more damage to streams; several large debris torrents were triggered by road failures." "

Streams, Landslides, Logging, Roads and Rain Published by Northwest Environment Watch, 1996 http://members.efn.org/~jpreed/landsl.html

Timber Harvest Opposing View "Prior to 1905, forests in the United States were rapidly liquidated into profit gained from "building the Nation." In the process, more and more land and species were disappearing from a landscape that once teamed with life and abundance. Teddy Roosevelt became increasingly concerned with conservation and used his authority to protect wildlife and public lands by creating the United States Forest Service (USFS).

The Forest Service was established as an entity with Gifford Pinchot serving as the first chief of the USFS in 1905 "with a sacred mission to provide wood to the world in order to avert the evils of a "timber famine." Pinchot was central in forming a forest policy and began what he called "the art of producing from the forest whatever it can yield for the service of man." From the beginning, the Forest Service viewed forests as banks the Nation could draw from to increase profit margins. The USFS has consistently, since its beginnings, made decisions based on getting the cut out and turning profits from the forest to the timber industry, stressing that timber needed to be extracted in a way that would prevent a timber famine to ensure the Nation would not bankrupt itself of valuable lumber."

"From the beginning, the Forest Service creates policies based on the idea that the main purpose of forests is to supply timber for the growing Nation while economically benefiting industry. The Service focuses on management to prevent a "timber famine" so those industries can always rely on forest products for their economic stability. This way of perceiving land has dramatically altered, eliminated and damaged the once-intact ecosystems that sustained an incomprehensible diversity of plant and animal species that are now extinct because of that mindset.

The profit-driven mentality causing this destruction is still alive and well within the Forest Service and Congress. Throughout the legislative history of the Forest Service, as is illustrated above, it is clear that budget drives the Forest Service and their policies. When the Forest Service is dependent upon the receipts it gets from timber sales and incentives the government gives the Service to increase logging, it will do what it needs to increase those sales. When environmental laws are passed in order to protect those ecologically significant forests, the industry and the service will do what is necessary to circumvent those laws in order to make a profit even though, in every single case, the government itself is out a huge amount of tax dollars to make those sales happen."

Stop Thinning Forests

http://stopthinningforests.org/forest-service-history.html

Timber Harvest Opposing View "Logging national forests is like grinding Mount Rushmore for gravel, or melting the Statue of Liberty for scrap iron," Tim Hermach says. "Yet the U.S. Forest Service is allowing big timber companies to raze our natural heritage for corporate profit."

"What the Forest Service is doing is taking a public resource and selling it off piece by piece to private timber companies. Of the 193 million acres that represent the U.S.

Forest System, half of it is available for logging, according to current management plans. And the Bush Administration and the U.S. Forest Service have been trying their best to get access to the other half. In 2002, Bush introduced the Healthy Forests Initiative, a forest management policy that gave timber companies greater access to our protected lands—under the guise of fire protection—while stripping away public input into the management process. In 2005, Bush repealed the Roadless Rule, a policy set in place by the Clinton Administration to curb road building and logging on our public lands. In that same year, the Forest Service adopted a management policy that excluded itself from certain aspects of the Endangered Species Act and the National Environmental Policy Act. It's a policy that could have increased logging on our national forests by 80%. The policy was struck down in federal court last year, but the Forest Service adopted a similar plan in the spring of this year. A coalition of conservation groups immediately filed lawsuits again."

Logging vs. Recreation
BY GRAHAM AVERILL
PUBLISHED BY BLUE RIDGE OURDOORS, 01 JUL 08
https://www.blueridgeoutdoors.com/magazine/july-2008/logging-vs-recreation/

Timber Harvest Opposing View "The logging program on America's national forests cannot be justified on economic grounds because it does more harm than good, two environmental groups said today. Their report, "The Economic Case Against National Forest Logging," argues that cutting down the national forests is a money losing proposition, and that standing trees provide ecosystem functions that are much more valuable than their wood alone."

"The 75 page report - the result of three years of research - analyzes the economic value of ecosystem services provided by standing forests, including flood control, water purification, pest control and pollination. These services, the report argues, contribute many times more economic value to rural communities than logging."

"Logging increases the wildfire risk, many ecologists believe. The Sierra Nevada Ecosystem Project's 1996 report notes that, "Timber harvest, through its effects on forest structure, local microclimate and fuels accumulation, has increased fire severity more than any other recent human activity." In 1994, the Forest Service spent almost \$1 billion for fire management on national forest lands."

"A common sense alternative is to protect America's national forests from commercial logging by reinvesting the logging subsidies into economically viable programs,"

Representative McKinney said. "Rather than spending taxpayer dollars to degrade our national heritage, we should invest in programs for ecological restoration, adequate school funding, alternative fiber research, vocational training and community economic development." "

National Forest Logging Costs Outweigh Benefits

Published by the Environmental News Service, March 13, 2000 http://www.ens-newswire.com/ens/mar2000/2000-03-13-06.html

Timber Harvest Opposing View "Forest harvesting can lead to higher levels of sediment in nearby waterbodies. Removal of vegetation can leave the land exposed to erosion by wind or water; for example, without the interception of raindrops by vegetation, the impact of the water on exposed soils can dislodge soil particles that can then be carried into streams by surface runoff. Stream sediment concentrations can also increase if equipment is operated in or driven through a stream, or if the stability of streambanks is reduced by harvesting trees in the riparian zone. Whether carried into the water from the land or disturbed in-stream, higher sediment levels have negative effects on aquatic habitat (AARD 2006)."

Potential Effects of Forestry on Aquatic Ecosystems

Published by Regional Aquatics Monitoring Program http://www.ramp-alberta.org/resources/forestry/potential+effects.aspx

Timber Harvest Opposing View "Logging operations are among the biggest sources of water pollution in the country after agriculture. And both Ag and Big Timber have friends in high places that have continued to make regulation of these pollution sources unaccountable to the public and consumers.

In arguing against limitations on such pollution, Ag and Timber, both suggest that internalizing these costs would drive up the price of food and lumber. No doubt they are correct. However, shouldn't those enjoying the benefit of these products be paying the "real" costs to produce them?

What is happening now is that these industries are externalizing their costs. They are making other people, and the land, suffer the negative impacts of their operations. They get to keep the profits, while the rest of us pick up the tab."

Logging pollution and Clean Water Act

By George Wuerthner
Published by the Wildlife News, May 21, 2013
http://www.thewildlifenews.com/2013/03/21/logging-pollution-and-clean-water-act/

Timber Harvest Opposing View "But the main threat to wildlife in the mountains hasn't been crowds of weekend gawkers. It's tended to be smaller groups, mostly riding bull-dozers and packing chainsaws. The logging industry has left its deadly mark on local wildlife habitat. Far too many river valleys in southwest mainland BC have had a logging road punched to the back of the watershed, with its forest cloak ripped to tatters by clearcut logging."

Logging Creates Habitat Destruction and Endangered Species

By Joy Foy

Published in the Sentinel, September 1, 2012

https://watershedsentinel.ca/articles/logging-creates-habitat-destruction-and-endangered-species/

Timber Harvest Opposing View "Habitat can be destroyed directly by many human activities, most of which involve the clearing of land for uses such as agriculture, mining, logging, hydroelectric dams, and urbanization. Although much habitat destruction can be attributed to human activity, it is not an exclusively man-made phenomenon. Habitat loss also occurs as a result of natural events such as floods, volcanic eruptions, earthquakes, and climate fluctuations."

Habitat Loss, Fragmentation, and Destruction

By Laura Klappenbach

Published by *ThoughtCo*, May 2, 2018

https://www.thoughtco.com/habitat-loss-fragmentation-and-destruction-130129

Timber Harvest Opposing View "Forests are vital for the health and well-being of humans, wildlife, and the Earth. They provide habitat for about two-thirds of all land-dwelling animals and plants. Around the world, these critical ecosystems are being ripped apart as a result of a booming demand for furniture, flooring, lumber, and other building materials. Trees are used to make paper, packaging materials, pencils, fuel for cooking and heat, and other wood-based products. In addition to wood products, logging is also occurring at an alarming rate to make room for animal agriculture and subsistence farming, oil and gas extraction, mining operations, and ever-increasing development. The world's natural forests cannot sustain the increasing global demands of current forest management practices.

Years of irresponsible exploitation have destroyed and degraded much of the planet's forests. Half of the Earth's global forest land has already been lost. In the United States, 90 percent of continental indigenous forests have been removed. Around the world, 15 billion trees are being cut down each year. The destruction of important wildlands is displacing communities, endangering habitats of rare and endangered plants and animals, and negatively affecting the environment. Most of the world's remaining indigenous forests are located in Canada, Alaska, Russia and the Northwestern Amazon basin. We must protect what is left before it is too late."

LOGGING: CUTTING DOWN WILDLIFE HABITATS

Published by World Animal Foundation, 2018 http://www.worldanimalfoundation.org/articles/article/894999/186689.htm

Timber Harvest Opposing View "Habitat destruction is the process by which natural habitat is rendered incapable of supporting its native species. In this process, the organisms that previously used the site are displaced or destroyed, reducing <a href="https://pionatural.natura

worldwide. [2] It is a process of natural environmental change that may be caused by <u>habitat fragmentation</u>, geological processes, <u>climate change[1]</u> or by human activities such as the introduction of <u>invasive species</u>, ecosystem nutrient depletion, and other human activities."

Habitat destruction

The Wikipedia definition https://en.wikipedia.org/wiki/Habitat_destruction

Timber Harvest Opposing View "According to the WWF, trees can essentially act as anchors for soil. Removing those anchors can make the soil more vulnerable to erosion. Raines also points out that removing trees during clear cutting can also take away the bacteria, worms, and fungi that maintain and treat the forest soil, and removing these organisms may also put other forest plants at an increased risk of illnesses. The degradation of soil is one of the <u>most pressing environmental issues</u> facing society at present, and clear cutting only contributes to it."

Effects of Clear Cutting

By Megan Stubblefield Published by https://greenliving.lovetoknow.com/environmental-issues/effects-clear-cutting

Timber Harvest Opposing View "Natural forests are now recognized as dynamic places, subject to natural changes that affect the quantity and quality of available habitat. However, logging has resulted in disturbance on a scale unlike any caused by natural forces. At some time in the last 500 years, 95 percent of all U.S. forests were cut, leaving few old-growth timber stands. Over the last century, much of the North American forests have regrown or been replanted, increasing to 4.6 million km2 in Canada and U.S. (13 percent of the world's forest area)."

Finding Solutions to Habitat Loss

Published by Partners in Flight, January 2002 http://eeinwisconsin.org/content/eewi/101706/HabitatLossSolutions.pdf

Timber Harvest Opposing View "Today, the loss and degradation of natural habitats can be likened to a war of attrition. Many natural ecosystems are being progressively razed, bulldozed, and felled by axes or chainsaws, until only small scraps of their original extent survive. Forests have been hit especially hard: the global area of forests has been reduced by roughly half over the past three centuries. Twenty-five nations have lost virtually all of their forest cover, and another 29 more than nine-tenths of their forest (MEA 2005). Tropical forests are disappearing at up to 130 000 km2 a year (Figure 4.1)—roughly 50 football fields a minute."

Habitat destruction: death by a thousand cuts
By William F. Laurance
Published by Conservation Biology, 2010
https://conbio.org/images/content_publications/Chapter4.pdf

Timber Harvest Opposing View "Vegetation removal and logging destroy the structure of the habitat since it takes away the vital materials and natural systems responsible for replenishing and purifying the habitat. Removal of vegetation cover and logging also creates room for <u>soil erosion</u> and decrease stormwater infiltration which leads to the <u>degradation of water quality</u>, further destroying the habitat."

What is a Habitat?

Published on *Earth Eclipse*, 2018 https://www.eartheclipse.com/ecosystem/reasons-for-habitat-loss-and-destruction.html

For those who have read this far it should be evident that independent science reveals logging inflicts tragic effects to the forest's natural resources. Ask yourself why the USFS budget for fire and timber sales is larger than all other line items combined. Now ask yourselves who or what the agency serves. You are

assisting them with the destruction. You are paid well. Is it really worth it? The USFS teaches you logging restores the forest. A few unscrupulous people will believe anything for money won't they?